VP Ellipsis

Andrew Murphy
Universität Leipzig
andrew.murphy@uni-leipzig.de

- In the broadest sense, VP ellipsis entails ellipsis of part of the extended verbal projection:

(1)   *VP Ellipsis*:
   a.   Betsy was hassled by the police and Peter was [$_{VP}$ ~~hassled by the police~~] too.
   b.   John put his beer on the floor, so Mary did [$_{VP}$ ~~put her beer on the floor~~]

- By now, we posit a relatively rich structure of the verbal domain:

(2)   [… [$_{AuxP}$ Aux [$_{VoiceP}$ Voice [$_{vP}$ v [$_{VP}$ V DP]]]]]

- Which projections does VPE target?

1   What does VPE elide?

1.1   Voice mismatches

- In general VP ellipsis permits mismatches regarding voice (Hardt 1993):

(3)   *Voice mismatches under VP ellipsis* (Merchant 2013*b*:78f.):
   a.   The janitor must remove$_{ACT}$ the trash whenever it is apparent that it should be
        [$_{VP}$ ⟨removed$_{PASS}$⟩]
   b.   The system can be used$_{PASS}$ by anyone who wants to [$_{VP}$ ⟨use$_{ACT}$ it⟩]

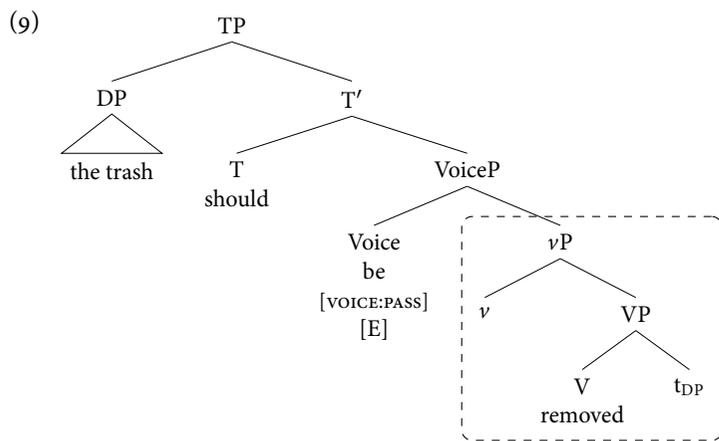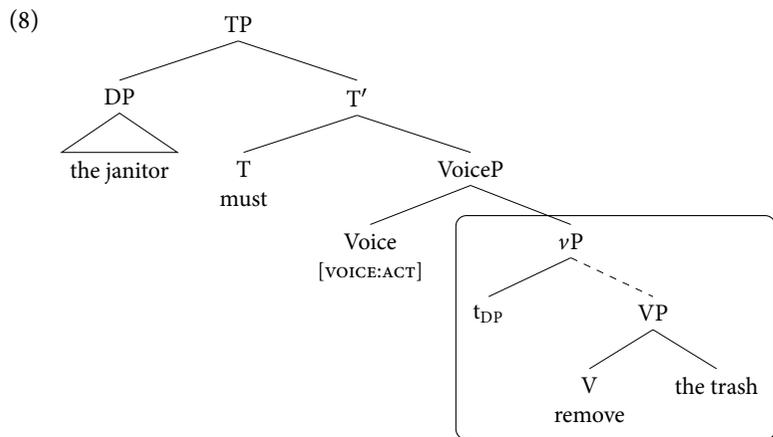- Merchant (2013*b*) shows that sluicing differs in this regard:

(4)   *No voice mismatch under sluicing* (Merchant 2013*b*:81):
   a.   *The vase was stolen$_{PASS}$, but we don't know who [$_{TP}$ ⟨stole$_{ACT}$ the vase⟩]
   b.   *Someone murdered$_{ACT}$ Joe, but we don't know who by [$_{TP}$ ⟨Joe was murdered$_{PASS}$⟩]

(5)   *Overgeneration of e-GIVENness*:
   Joe was murdered but we don't know who ⟨murdered Joe⟩
   ($\exists x.x$ murdered Joe $\leftrightarrow \exists x.x$ murdered Joe)

Merchant's solution:
No mismatch in the value of the VOICE feature between ellipsis site and antecedent.

(6)

(7)
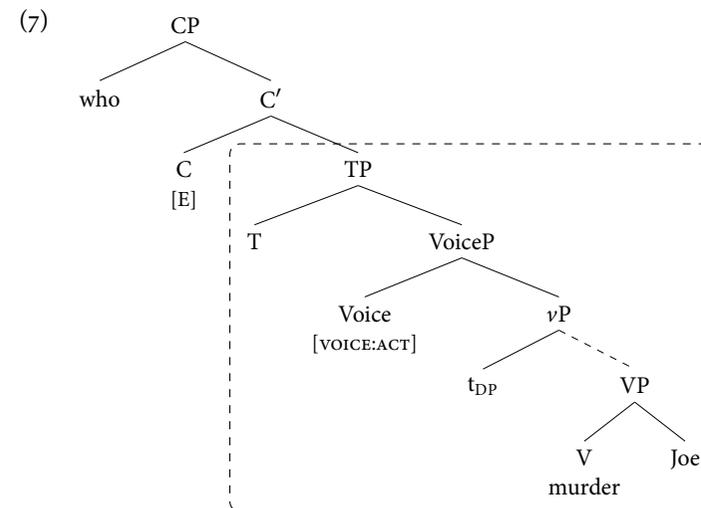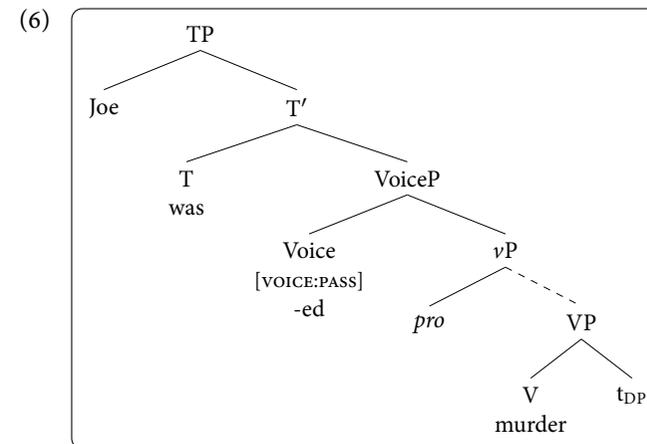
- This important assumption is that VP ellipsis targets a projection smaller than VoiceP, so that the mismatching voice features are not included in the ellipsis site.
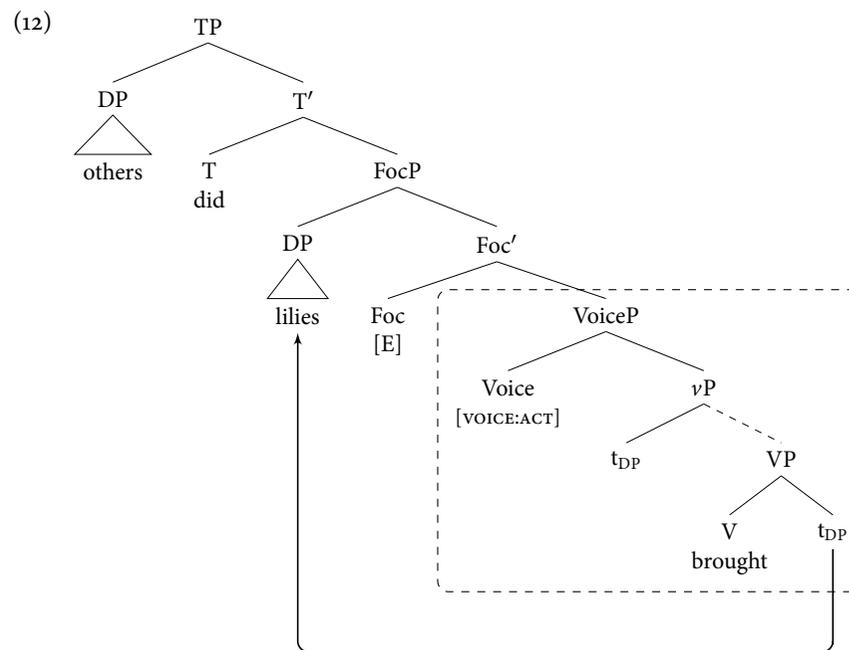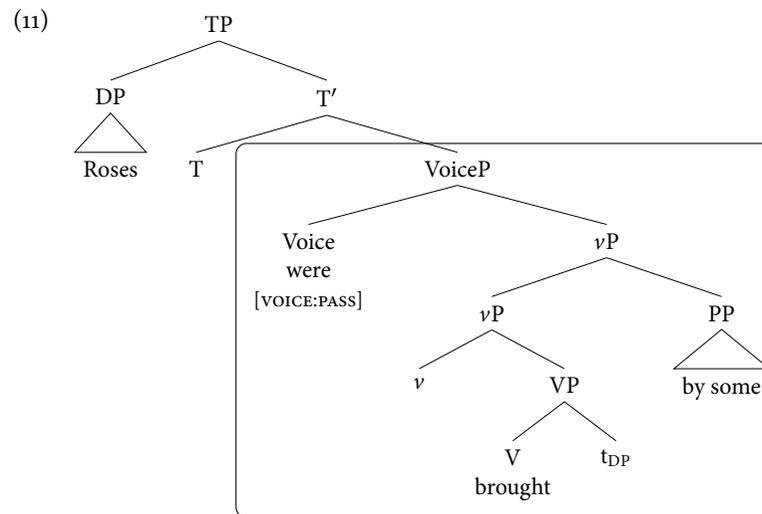
(8)

```
                TP
          ┌─────┴─────┐
         DP           T′
          |       ┌────┴────┐
     the janitor  T        VoiceP
                 must   ┌────┴────┐
                      Voice      vP
                   [VOICE:ACT] ┌──┴┄┄┐
                             t_DP    VP
                                  ┌───┴───┐
                                  V    the trash
                                remove
```

(9)

```
                TP
          ┌─────┴─────┐
         DP           T′
          |       ┌────┴────┐
     the trash    T        VoiceP
                should  ┌────┴────┐
                      Voice       vP
                       be      ┌──┴──┐
                  [VOICE:PASS]  v    VP
                     [E]          ┌──┴──┐
                                  V    t_DP
                               removed
```

- Similar logic applies to Merchant's (2008a) account of the asymmetry between VPE and pseudogapping regarding voice mismatches:

(10) *No voice mismatches in pseudogapping* (Merchant 2008a:170):
  a. Some brought$_{PASS}$ roses, and others did ⟨bring⟩ lilies.
  b. *Roses were brought$_{PASS}$ by some, and others did ⟨bring$_{ACT}$⟩ lilies.
  c. Some brought$_{ACT}$ roses, and lilies were brought$_{PASS}$ by others.
  d. *Some brought$_{ACT}$ roses, and lilies were ⟨brought$_{PASS}$⟩ by others.

- Merchant (2008a) suggests that the remnant in pseudogapping moves to a position above VoiceP.

- The ellipsis site in pseudogapping is much larger, containing mismatching voice features:

(11)

```
               TP
         ┌─────┴─────┐
        DP           T′
         |       ┌────┴────┐
       Roses     T        VoiceP
               ┌──────┴──────┐
             Voice           vP
             were       ┌────┴────┐
          [VOICE:PASS]  vP        PP
                     ┌───┴───┐  by some
                     v       VP
                          ┌──┴──┐
                          V    t_DP
                       brought
```

(12)

```
               TP
         ┌─────┴─────┐
        DP           T′
         |       ┌────┴────┐
       others    T        FocP
               did    ┌────┴────┐
                     DP         Foc′
                    lilies  ┌────┴────┐
                           Foc       VoiceP
                           [E]   ┌────┴────┐
                               Voice       vP
                            [VOICE:ACT] ┌──┴┄┄┐
                                       t_DP   VP
                                          ┌───┴───┐
                                          V      t_DP
                                       brought
```

Conclusion: VPE targets at least *v*P (but not VoiceP).

1.2 Adverbs as a dignostic of VPE

- Johnson (2004) show that the adverb *again* can be used as a diagnostic for the size of VPE (following von Stechow 1996).

  (13) a. Jane closed the door, and then Maribel closed it again. (*repetitive*)
       b. The window blew the door open, and no-one closed. Finally, Maribel closed it again. (*restitutive*)

  (14)
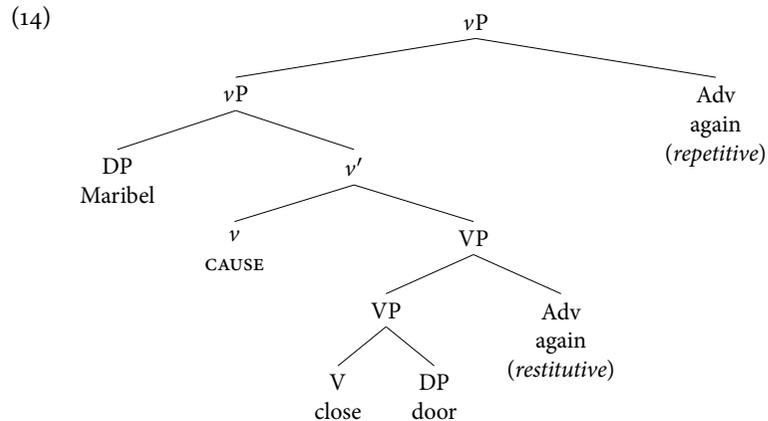
  (15) a. *restitutive* CAUSE(AGAIN(CLOSED(door)))
       b. *repetitive*: AGAIN(CAUSE(CLOSED(door)))

- Johnson points out that only the repetitive reading is available in VPE contexts:

  (16) Jane closed the door, and then Maribel did ___ again   (*repetitive*, *restitutive)

  (17) The window blew the door open, and no-one closed it
       #Finally, Maribel did ___ again.

  Conclusion: VPE can target a constituent smaller than *v*P (i.e. VP).

1.3 Ellipsis of auxiliaries

- English allows for a relatively rich structure of the verbal domain:

  (18) Betsy must have been being hassled.
       finite modal > perfect HAVE > progressive BE > passive BE > lexical verb

  (19)
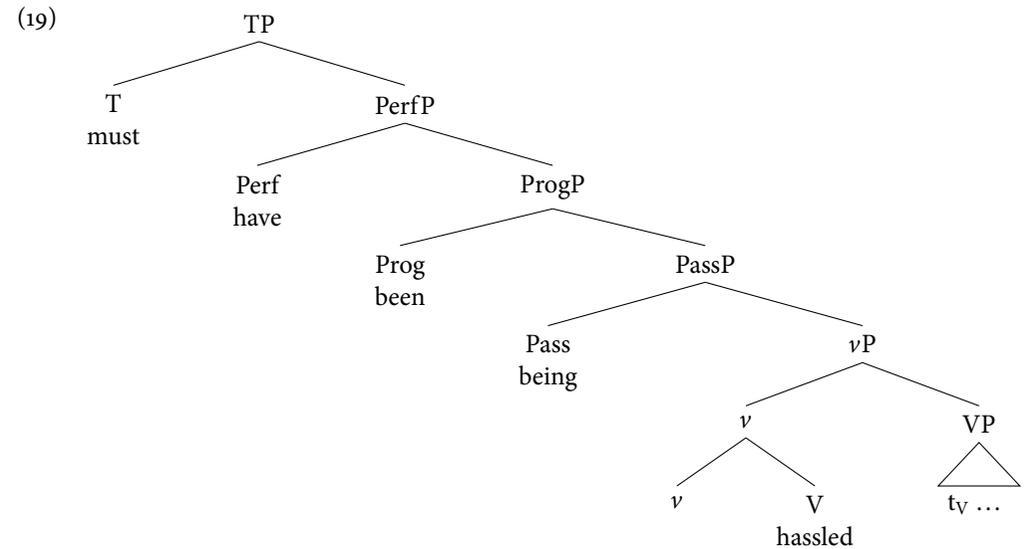
- Sag (1976:31) points out the following paradigm (cf. Akmajian & Wasow 1975):

  (20) Betsy must have been being hassled by the police, and …
       a. *Peter must ~~have been being hassled by the police~~ too.
       b. Peter must have ~~been being hassled by the police~~ too.
       c. Peter must have been ~~being hassled by the police~~ too.
       d. *Peter must have been being ~~hassled by the police~~ too.

  (21) *Passive* be:
       a. Ted has been arrested and Barney has ~~been arrested~~ too.
       b. Ted has been arrested and Bary has been ~~arrested~~ too.

  (22) *Copular* be *(infinitive)*:
       a. Ted will be in the garden and Robin will ~~be in the garden~~ too.
       b. Ted will be in the garden and Robin will be ~~in the garden~~ too.

  (23) *Progressive* be *(auxiliary and copula)*:
       a. John was being arrested and Mary was ~~being arrested~~ too.
       b. *John was being arrested and Mary was being ~~arrested~~ too.
       c. John was being annoying and Mary was ~~being annoying~~ too.
       d. *John was being annoying and Mary was being ~~annoying~~ too.

  (24) *Generalizations*
       a. Perfect HAVE cannot be elided.
       b. Progressive BE must be elided.
       c. Passive/copular BE can optionally be elided (when it is not progressive).

(25) *Distributional differences between passive* be *and* being (Harwood 2014:312):

    a. There were *many smurfs* **being** arrested for anti-social behaviour.
    b. *There were **being** *many smurfs* arrested for anti-social behaviour.
    c. There will **be** *many smurfs* arrested for anti-social behaviour.
    d. *There will *many smurfs* **be** arrested for anti-social behaviour.
    e. There have **been** *many smurfs* arrested for anti-social behaviour.
    f. *There have *many smurfs* **been** arrested for anti-social behaviour.

(26) *Distributional differences between copular* be *and* being (Harwood 2014:312):

    a. There was *a gang of smurfs* **being** rather loud and obnoxious.
    b. *There was **being** *a gang of smurfs* rather loud and obnoxious.
    c. There will **be** *a gang of smurfs* rather loud and obnoxious.
    d. *There will *a gang of smurfs* **be** rather loud and obnoxious.
    e. There has **been** *a lot of commotion* rather loud and obnoxious.
    f. *There has *a lot of commotion* **been** rather loud and obnoxious.

(27) *Auxiliary* be *not in progressive* (Harwood 2014:312):

    a. There will **be** *a gang of smurfs* dancing in the garden tonight.
    b. *There will *a gang of smurfs* **be** dancing in the garden tonight.
    c. There has **been** *a gang of smurfs* dancing in our garden all night.
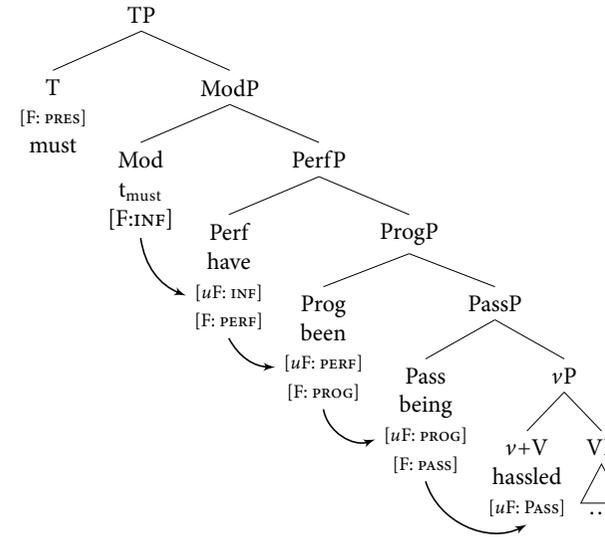   d. *There has *a gang of smurfs* **been** dancing in our garden all night.

(28) *Floating quantifiers* (Bošković 2004:686):

    a. They are *all* ___ **being** noisy.
    b. *They are **being** *all* ___ noisy.

(29) *Adverb placement* (Bošković 2014:61):

    a. They have **been** *often* ___ terrorized by prejudice.
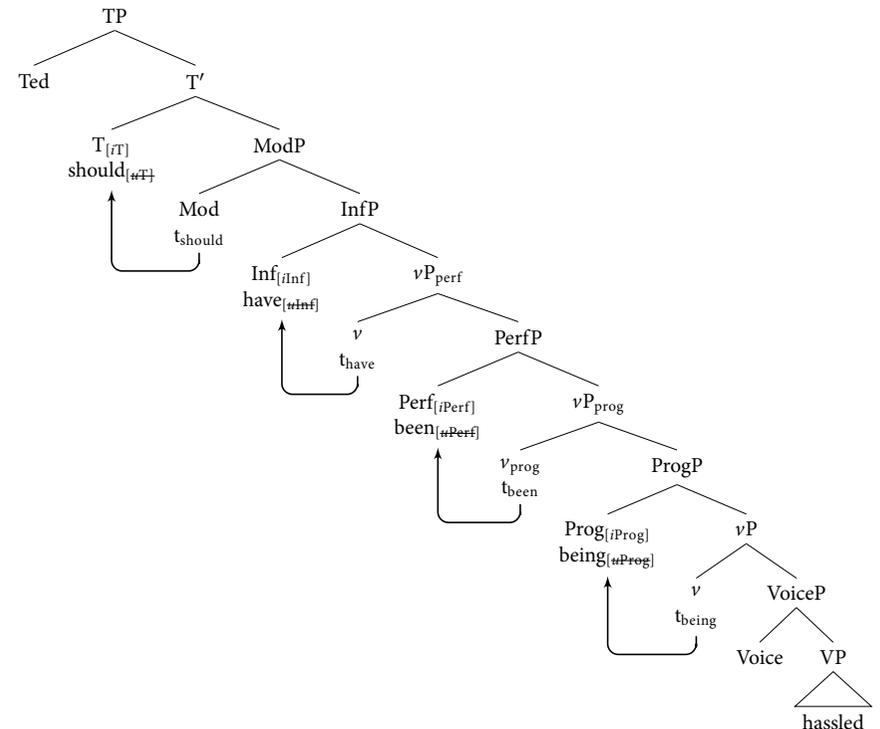   b. *They are **being** *often* ___ terrorized by prejudice.

(30) *Generalization*:
    Be and *been* raise to a position above the associate, *being* does not.
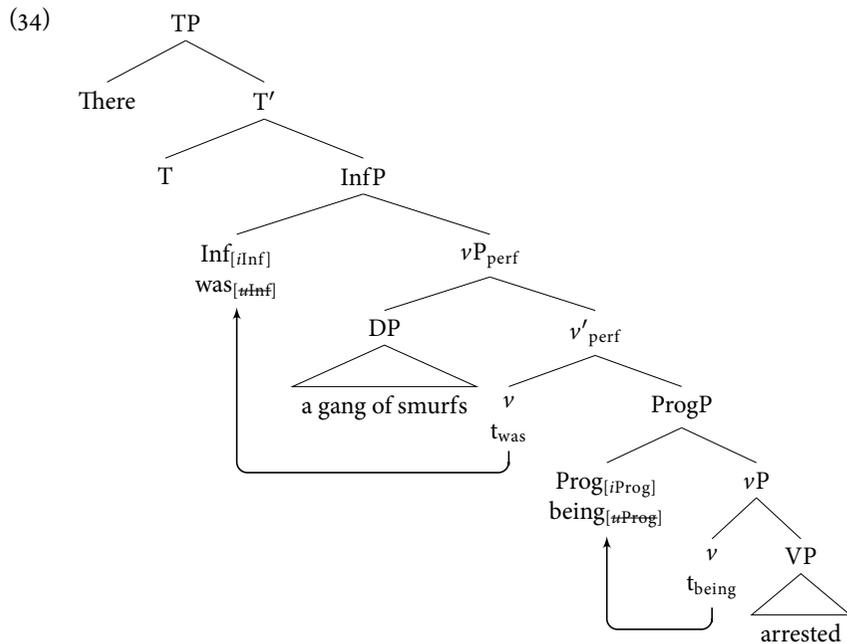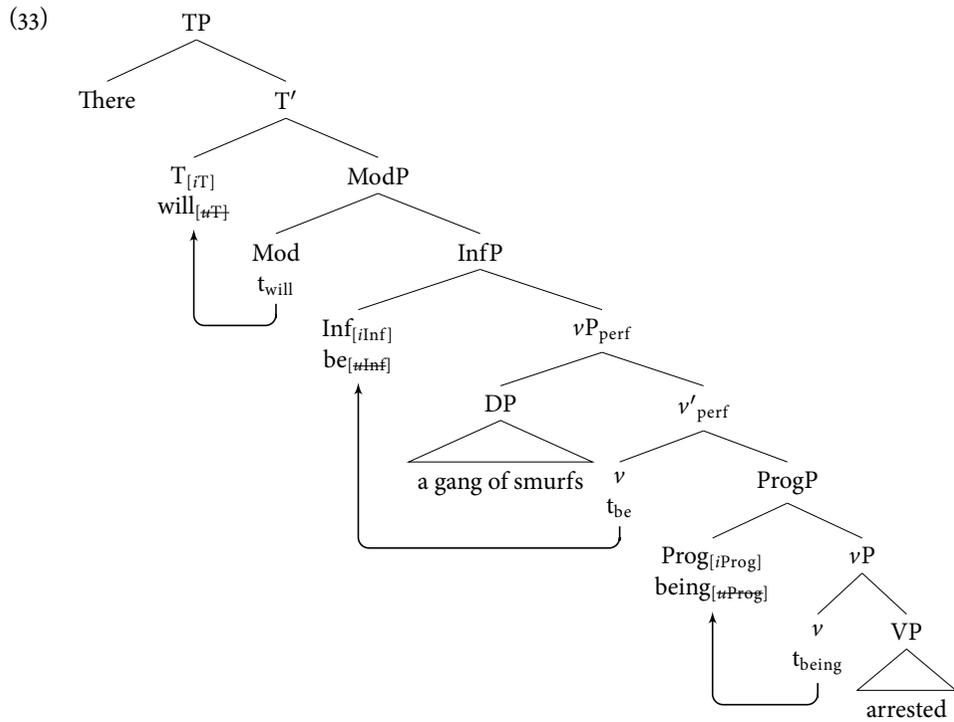
- Aelbrecht & Harwood (2015) suggest that this asymmetry can derive the patterns of VPE we find with auxiliaries.

- We can contrast two different approaches to getting the right inflection on auxiliaries:

(31) *Inflection by Agree* (Adger 2003):

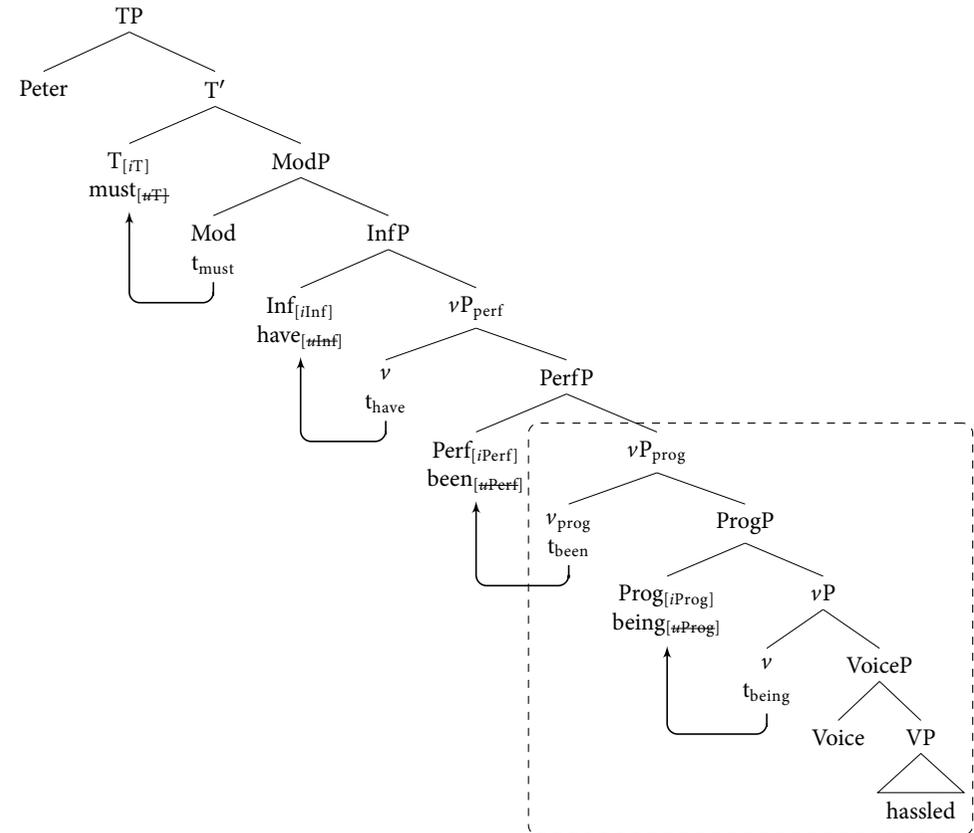(32) *Inflection by movement* (Aelbrecht & Harwood 2015:70):

(33)

TP
There
T′
T[iT] will[uT]
ModP
Mod t_will
InfP
Inf[iInf] be[uInf]
vP_perf
DP a gang of smurfs
v′_perf
v t_be
ProgP
Prog[iProg] being[uProg]
vP
v t_being
VP arrested

(34)

TP
There
T′
T
InfP
Inf[iInf] was[uInf]
vP_perf
DP a gang of smurfs
v′_perf
v t_was
ProgP
Prog[iProg] being[uProg]
vP
v t_being
VP arrested

(35) *Generalizations*
   a. Perfect HAVE cannot be elided.
   b. Progressive BE must be elided.
   c. Passive/copular BE can optionally be elided (when it is not progressive).

(36) Betsy must have been being hassled by the police, and …
   a. *Peter must ~~have been being hassled by the police~~ too.
   b. Peter must have ~~been being hassled by the police~~ too.
   c. Peter must have been ~~being hassled by the police~~ too.
   d. *Peter must have been being ~~hassled by the police~~ too.   (Sag 1976:31)

(37) *Ellipsis targets vP_prog*:

TP
Peter
T′
T[iT] must[uT]
ModP
Mod t_must
InfP
Inf[iInf] have[uInf]
vP_perf
v t_have
PerfP
Perf[iPerf] been[uPerf]
vP_prog
v_prog t_been
ProgP
Prog[iProg] being[uProg]
vP
v t_being
VoiceP
Voice
VP hassled

Why is ellipsis of be(en) *optional?*

– Raising of *be* from v_{prog} is optional.

– If it raises, it checks its [uPerf] feature against the [iPerf] feature on the Perf head.

5

- If it does not raise (38), then its uninterpretable feature is deleted at PF.

- Is this a problem for auxiliary raising story? No – salvation by PF deletion (but for features?):

(38) They want to hire someone who speaks a Balkan language, but I don't remember which (language) [$_{TP}$ △]

(39)
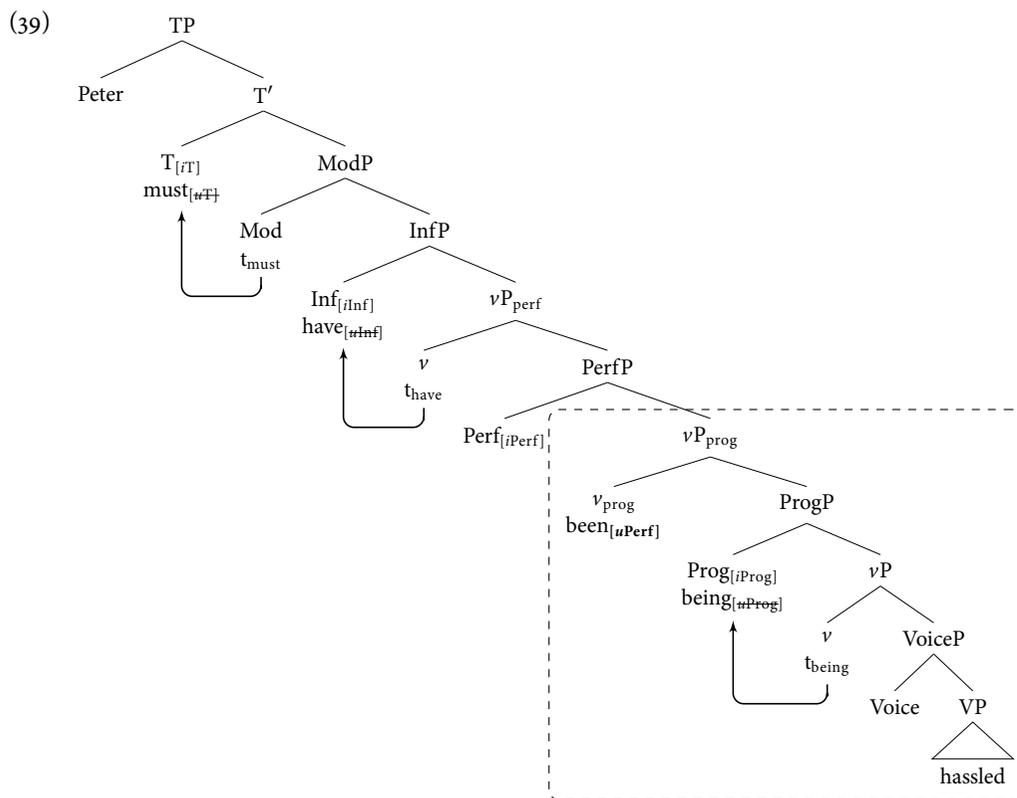
Prediction: Perfect HAVE cannot be elided

(40) John might have called and Bill might △ too.
    a. △ = have called (?)
    b. = call

(41) *Evidence that* have *cannot be elided*:
    a. *John might have called yesterday, and Bill might ~~have called~~ two days ago
    b. Mary could have studied harder for the exam. Before finally taking it yesterday…
        (i) …she really should have ~~studied harder~~
        (ii) *…she really should ~~have studied harder~~

2 Licensing VPE

2.1 Split antecedents

(42) *Split antecedents with VP ellipsis* (Webber 1978:164; Fiengo & May 1994:200):
    a. Wendy is eager to [$_{VP}$ sail around the world] and Bruce is eager to [$_{VP}$ climb Kilimanjaro], but neither of them can [$_{VP}$ △] because money is too tight.
        (△ = 'do what s/he is eager to do')
    b. Whenever Max [$_{VP}$ uses the fax] or Oscar [$_{VP}$ uses the Xerox], I can't [$_{VP}$ △]
        (△ = 'use either of them'?)

Something extra is required to turn the ellipsis site into something referential (e.g. a definite description) (e.g. Elbourne 2008).

2.2 Phrase marker identity

Sometimes, it seems that ellipsis of a VP can be licensed by a VP inside a derived nominal (cf. Fu et al. 2001):

(43) *Deverbal nouns license VPE* (Hardt 1993):
    a. David Begelman is a great *laugher*, and when he does [$_{VP}$ △], his eyes crinkle at you the way Lady Brett's did in the *The Sun Also Rises*.
    b. Today there is little or no OFFICIAL *harassment of lesbians and gays* by the national government, although autonomous governments might [$_{VP}$ △]

(44) *Deverbal nouns license VPE* (Merchant 2013a:446):
    a. ?That man is a robber, and when he does ⟨rob⟩, he tries not to make any noise.
    b. *That man is a thief, and when he does ⟨steal⟩, he tries not to make any noise.

(45)
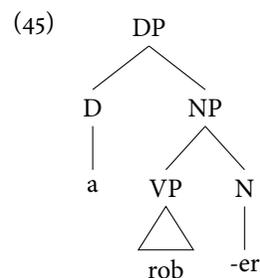
But how general is this effect?

(46) a. *Eddy has already reported on the accident, but we cannot find Tim's ⟨report on the accident⟩.
    b. *We read Tim's report on the accident, but Eddy hasn't ⟨reported on the accident⟩.
    (Tanaka 2011:85)

2.3 Auxiliary matching

- In general, tense and agreement mismatches are possible under VP ellipsis:

  (47) *Morphological mismatches with lexical verbs possible*:
      a. John walked to London and Mary did [$_{VP}$ ~~walk to London~~] too.
      b. John sleeps every afternoon and Mary should [$_{VP}$ ~~sleep every afternoon~~] too.

- What is rather striking, however, is that copula/auxiliary *be* (Warner 1985)

  (48) a. *I am confused about ellipsis and you will [$_{VP}$ ~~be confused about ellipsis~~] too.
      b. I am confused about ellipsis and you will be [$_{VP}$ ~~confused about ellipsis~~] too.
      c. John will be confused about ellipsis and you will [$_{VP}$ ~~be confused about ellipsis~~] too.

  (49) *Warner's Generalization* (Warner 1985):
  Auxiliary *be* can only be elided if it matches the morphological form of its antecedent.

- Consider the following analysis by Lasnik (1995):

  (50) *Lasnik's assumptions*:
      a. English main verbs are inserted into structure as bare forms (roots)
      b. English auxiliaries are inserted into structures fully inflected

  (51) *Ellipsis licensing condition*:
  VPE requires perfect identity between verb forms at PF, before verbal roots and affixes merge.

  (52) John walked to London and Mary did [$_{VP}$ ~~walk to London~~] too.
      a. ❶ *Ellipsis identity*:
  [$_{TP}$ John -ed [$_{VP}$ walk to London]] and [$_{TP}$ Mary -ed [$_{VP}$ ~~walk to London~~] too]
      b. ❷ *Affix hopping*:
  [$_{TP}$ John [$_{VP}$ walk-ed to London]] and [$_{TP}$ Mary do-ed [$_{VP}$ ~~walk to London~~] too]

  (53) *I am confused about ellipsis and you will [$_{VP}$ ~~be confused about ellipsis~~] too.
      a. *Ellipsis identity* (mismatch!):
  *[$_{TP}$ I [$_{VP}$ am confused about ellipsis]] and [$_{TP}$ you will [$_{VP}$ ~~be confused~~] too]

- Lasnik's analysis requires pre-syntactic morphology.
- Can this be reformulated in terms of features or in some other way (Potsdam 1997; Roberts 1998)?

3 Extraction from VPE

3.1 Wh-extraction

- It is possible to extract from a VPE site:

  (54) I know what John can do, now I need to find out what$_1$ he can't [$_{VP}$ ~~do t$_1$~~]

- However, in many contexts sluicing seems to block VPE:

  (55) *Competition between VP and TP ellipsis*:
      a. Mary was kissing someone, but I don't know who$_1$ [$_{TP}$ ~~she was kissing t$_1$~~]
      b. *Mary was kissing someone, but I don't know who$_1$ she was [$_{VP}$ ~~kissing t$_1$~~]

  (56) a. You play a wind instrument? Which one (*do you)?
      b. A: John has broken something.
         B: What (*has he)?
      c. Mary was reading. The question: what (*was she)?
      d. Fred likes chocolates. Does anyone know what kind (*he does)?
      e. You admire a woman in this room. Tell me who (*you do).

  (57) *Generalization*:
  TP ellipsis (sluicing) blocks VP ellipsis, if both are possible.

- However, VPE seems to be optional with extraction of adverbials:

  (58) *Optional VPE with wh-adverbials in embedded contexts*:
      a. Mary is trying to kiss someone, but I have no idea why (she was).
      b. A: John's leaving.
         B: Do you know when (he is)?
      c. John knows the prisoners escaped, but he doesn't know how (they did).

- However, in matrix clauses (root questions), VPE is blocked:

  (59) *No VPE with wh-adverbials in matrix contexts*:
      a. A: The guests left already.
         B: When (*did they)?
      b. A: I'm depressed.
         B: Why (*are you)?
      c. A: Susan practices yoga.
         B: Where (*does she)?

- It is also optional with extraction of a subject.

(60) *VP ellipsis possible with subject extraction*:

    a. Someone kissed Susan, but I don't know who (did).
    b. One of the professors will give the talk, but I'm not sure which one (will).
    c. A: Someone solved the problem.
       B: Who (did)?

(61) *MaxElide paradigm* (Hartman 2011:378):

	Is VPE possible?	
	Embedded questions	Main questions
wh-objects	✗	✗
wh-adverbials	✓	✗
wh-subjects	✓	✓

- I won't go into the details of Hartman's (2011) account, but the embedded/main clause asymmetry suggests that T-to-C has an important role to play in regulated competition between sluicing and VPE (also see Messick & Thoms 2016).
- A well-known asymmetry in island-repair is that sluicing repairs islands, whereas VP ellipsis does not (e.g. Chung et al. 1995; Fox & Lasnik 2003; Merchant 2008*b*):

(62) *Island repair under sluicing* (Ross 1969; Merchant 2001):

    a. They want to hire someone who speaks a Balkan language but I can't remember which$_1$ (language) ⟨they want to hire [$_{DP}$ somebody [$_{CP}$ who speaks t$_1$]] ⟩
    b. *They want to hire someone who speaks a Balkan language but I can't remember which$_1$ (language) they do ⟨ [$_{VP}$ [$_{DP}$ somebody [$_{CP}$ who speaks t$_1$]]] ⟩

- One way we could deal with this is to assume that extraction from VP ellipsis sites (under normal circumstances) impossible (Sag 1976; Williams 1977).
- But we just saw that sluicing tends to block VPE (when both are possible) (cf. Lasnik 2001):

(63) They studied a Balkan language, but I don't know …

    a. which ⟨[$_{TP}$they studied t$_{wh}$]⟩
    b.??which they did ⟨[$_{VP}$ study t$_{wh}$]⟩

- It seems we need focus to make extraction felicitous (it blocks competition with sluicing):

(64) a. Mary doesn't know who we can invite, but she can tell you who we CANNOT ~~invite~~.
    b. I don't know who JOHN will kiss, but I know who SUSAN will ~~kiss~~.

- When this is controlled for, island repair still fails to emerge with VPE:

(65) *No island repair with VPE* (Merchant 2001:114f.; Merchant 2008*b*:143):
    *Abby DOES want to hire someone who speaks GREEK, but I don't know remember what kind of language she DOESN'T [$_{VP}$ △]

3.2 Quantifier raising

- It is also possible to have covert movement out of an ellipsis site, i.e. quantifier raising.

(66) A Canadian flag stood in front of every embassay, and an American one did [$_{VP}$ △] too
LF = [$\forall x_{embassy}$ [$\exists y_{american\text{-}flag}$ did [$_{VP}$ y stand in front of x]]]
    QR

- The possibility of QR is rather restricted and subject to a parallelism requirement:

(67) *Scope restrictions on VP ellipsis* (Fox 2000:30)
    a. A boy admires every teacher   (∃ > ∀) (∀ > ∃)
    b. A boy admires every teacher. Mary does too.   (∃ > ∀) (*∀ > ∃)

- Thus, it seems that the elided quantifier in (67b) blocks a wide scope interpretation. Since the universal quantifier cannot take wide scope in the ellipsis clause in (67b) (there is not another quantifier for it to scope over), this interpretation is exceptionally blocked in the antecedent clause.
- Interestingly, this restriction disappears once a quantifier is introduced into the second clause (Hirschbühler 1982; Fox 2000).

(68) a. A boy admires every teacher. A girl does too.   (∃ > ∀) (∀ > ∃)
    b. A Canadian flag stood in front of every embassy, and an American flag did too.
    (∃ > ∀) (∀ > ∃)

- Furthermore, there is an asymmetry between VP ellipsis and the VP proform *it*:

(69) a. A doctor examined every patient, and then a nurse did [$_{VP}$ △]   (∃ > ∀) (∀ > ∃)
    b. A doctor examined every patient, and then a nurse did [$_{VP}$ it]   (∃ > ∀) (*∀ > ∃)

- QR is also crucial for the classic analysis of *antecedent-contained deletion* (ACD):

(70) a. John [$_{VP}$ read the book] and Mary did [$_{VP}$ △] too
    b. John [$_{VP}$ read every book that Mary did [$_{VP}$ △]]

- Let us assume that the resolution of VPE involves finding an antecedent VP for the ellipsis site.
- For (70a), this is relatively easy. We just copy *read the book*.

(71) John [$_{VP}$ *read book*] and Mary did [$_{VP}$ △] too.
    Copying

- However, the problem with (70b) is that the ellipsis site is contained in the antecedent VP:

(72) *Infinite regress problem in ACD*:
   a. John [$_{VP}$ read every book that Mary did [$_{VP_1}$ △]]
   b. John [$_{VP_1}$ read every book that Mary did [**$_{VP'}$ read every book that Mary did** [$_{VP}$ △]]]
   c. John [$_{VP_1}$ read every book that Mary did [$_{VP_{1'}}$ read every book that Mary did [**$_{VP''}$ read every book that Mary did** [$_{VP}$ △]]]]]
   d. …

- One proposed solution (May 1985) is to QR the quantified DP *every book that Mary did* △ outside of the VP$_1$.
- This allows us to copy VP$_1$ (with a trace of QR) into the ellipsis site in VP$_2$

(73) *QR solves infinite regress problem*:
   a. John [$_{VP_1}$ read every book that Mary did [$_{VP_2}$ △]]
   b. John [$_{VP}$ every book that Mary did [$_{VP_2}$ △]$_1$ [$_{VP_1}$ read t$_1$]]

   $\underbrace{\qquad\qquad\qquad\qquad}_{\text{QR}}$

   c. John [$_{VP}$ [every book that Mary did [$_{VP_2}$ △]]$_1$ [$_{VP_1}$ read t$_1$]]
   d. John [$_{VP}$ every book that Mary did [$_{VP_2}$ **read t$_1$**]$_1$ [$_{VP_1}$ read t$_1$]]

- How do we get ACD in a non-copying approach?

3.3   Verb-stranding VP ellipsis

- It is not just phrases that can extracted from a VPE site, it has been argued that verbs can too (Goldberg 2005; Gribanova 2013*a,b*).
- This has been called *Verb-Stranding VP ellipsis* (VVPE).

(74) *VVPE in Hebrew*:
   A: Šalaxt   etmol   et   ha-yeladim le-beit-ha-sefer?
       send.2SG yesterday ACC the-children to-house-the-book
       'Did you send the children to school yesterday?'
   B: Šalaxti   [$_{VP}$ △]
       send.1SG
       'I did.'

(75) *VVPE in Irish*:
   Dúirt mé go gceannóinn é agus cheannaigh [$_{VP}$ △]
   said   I   that buy   it and bought
   'I said I would buy it and I did.'

- The typical analysis is that the verb head-moves out of the ellipsis site prior to deletion:

(76) [$_{TP}$ T+V 〈 [$_{VP}$ —— DP] 〉]

- An interesting property of VVPE is the *Verbal identity requirement*, i.e. the verb that escapes the VP must be identical to the one in the antecedent.

(77) *Verbal identity requirement in Hebrew* (Goldberg 2005:174):
   A: (Ha'im) Miryam hevi'a   et   Dvora la-xanut   ?
        Q   Miryam bring.PST.3FSG ACC Dvora to.the-store
        'Did Miram bring Dvora to the store?'
   B: Ken, hi hevi'a
        yes   she bring.PST.3FSG
        'Yes, she brought (Dvora to the store).'
   B′: *Ken, hi lakxa
        yes   she take.PST.3FSG
        'Yes, she took (Dvora to the store).'
   B″:*Lo – hi šALXA!
        No   she sent.PST.3FSG
        'No, she SENT (Dvora to the store).'

- How can this matching requirement be implemented, if the verb moves out the ellipsis site?
- This is lead some authors to support that this provides evidence that head movement applies at PF *after* identity has been checked (Boeckx & Stjepanović 2001; Schoorlemmer & Temmerman 2012).

4   Obligatory VP ellipsis

- Normally, VP ellipsis is optional. However, there are some contexts in which it seems to be obligatory.
- Merchant (2003) discusses the interaction between subject-aux inversion and VPE:

(78) *Optional subject-auxiliary inversion in comparatives* (Merchant 2003:56f.):
   a. Abby knows more languages [*Op* than her father does [$_{VP}$ ~~know t$_{\overline{Op}}$~~]]
   b. Abby knows more languages [*Op* than does her father —— [$_{VP}$ ~~know t$_{\overline{Op}}$~~]]
   c. Abby has been awarded a more prestigious accolade than [*Op* than her father has [$_{VP}$ ~~been awarded t$_{\overline{Op}}$~~]]
   d. Abby has been awarded a more prestigious accolade than [*Op* than has her father —— [$_{VP}$ ~~been awarded t$_{\overline{Op}}$~~]]

(79) *SAI in comparatives requires VPE* (Merchant 2003:56f.):
   a. Abby knows more languages [*Op* than her father [$_{VP}$ knows t$_{Op}$]]
   b. *Abby knows more languages [*Op* than does her father —— know t$_{Op}$]]
   c. Abby has been awarded a more prestigious accolade [*Op* than her father has [$_{VP}$ been ~~awarded t$_{\overline{Op}}$~~]]

d. *Abby has been awarded a more prestigious accolade [$_{Op}$ than has her father ___ [$_{VP}$ been ~~awarded t$_{\overline{Op}}$~~]]

(80) *Comparative SAI and VP-ellipsis generalization* (Merchant 2003:55):
T-to-C movement in comparative clauses can occur only if VP-ellipsis has deleted the VP complement to T.

- We also find obligatory VPE with question tags that also involve SAI:

(81) *Obligatory VPE in question tags* (cf. Sailor 2014:128):
a.   John gave a book to Mary, didn't he [$_{VP}$ ~~give a book to Mary~~] ?
b. *John gave a book to Mary, didn't he [$_{VP}$ give one to her] ?
c.   John has been smoking again, hasn't he [$_{VP}$ ~~been smoking again~~] ?
d. *John has been smoking again hasn't he [$_{VP}$ been ~~smoking again~~] ?

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